

CLAIMS

WHAT IS CLAIMED IS:

1. A space division system for use with a supporting infrastructure, with the supporting infrastructure providing for distribution of electrical and communication signals, said space division system comprising:

a plurality of vertically disposed space dividers;

5 support means coupled to said supporting infrastructure and to said space dividers for moveably supporting said space dividers from said supporting infrastructure;

means for relocating said space dividers at selected locations relative to said supporting infrastructures; and

10 means for effecting a plurality of spatial configurations among said space dividers.

2. A space division system in accordance with claim 1, characterized in that said space dividers comprise pocketed dividers within a three dimensional knit in a layered structure.

3. A space division system in accordance with claim 1, characterized in that said space division system comprises splines for interconnecting space dividers in a manner so that said space dividers can be configured with varying radius.

4. A space division system in accordance with claim 1, characterized in that said means for effecting a plurality of spatial configurations among said space dividers comprises means for effecting non-modular and flexible configurations.

5. A space division system in accordance with claim 1, characterized in that at least one space divider comprises a three-dimensional knit having relatively large pockets.

6. A space division system in accordance with claim 1, characterized in that said plurality of spatial configurations comprises a plurality of said space dividers having a curvilinear structure as a function of stretching material of said space dividers.

7. A space division system in accordance with claim 1, characterized in that a subset of said plurality of configurations comprises a plurality of said space dividers having a curvilinear structure.

8. A space division system in accordance with claim 1, characterized in that said supporting means are adjustable in a manner so that a height of at least a subset of said plurality of space dividers may be adjustable.

9. A space division system in accordance with claim 1, characterized in that at least one of said plurality of space dividers comprises:

an upper structural batten;

a main body extending downwardly from said structural batten; and

said main body being constructed of a fabric which is substantially opaque.

10. A space division system in accordance with claim 8, characterized in that said space divider comprises a lower hemmed section having a weighted insert.

11. A space division system in accordance with claim 1, characterized in that said space dividers comprise at least one space divider having a hook configuration.

12. A space division system in accordance with claim 1, characterized in that said partitions comprise at least one space divider having a configuration with a series of S-shaped curvatures, where said S-shaped curvatures form partially enclosed workstations.

13. A space division system in accordance with claim 1, characterized in that

said space dividers comprise at least one space divider consisting of a translucent and stretchable material.

14. A space division system in accordance with claim 1, characterized in that at least one of said space dividers comprises a space divider formed of a woven material.

15. A space division system in accordance with claim 13, characterized in that said woven material consists of a cattle mattress material.

16. A space division system in accordance with claim 1, characterized in that at least one of said space dividers comprises a space divider having a weighted insert consisting of a tubular section fitted within a lower hem of said at least one partition.

17. A space division system in accordance with claim 16, characterized in that said tubular section is filled with sand.

18. A space division system in accordance with claim 16, characterized in that said tubular section comprises a flexible sheath consisting of rubber.

19. A space division system in accordance with claim 16, characterized in that said weighted insert comprises an end cap interconnected to a cooperating means of a weighted insert associated with an adjacent space divider.

20. A space division system in accordance with claim 1, characterized in that at least two adjacent ones of said space dividers are releasably coupled together through a quick release and quick connect mechanism.

21. A space division system in accordance with claim 20, characterized in that said mechanism comprises spring clips.

22. A space division system in accordance with claim 1, characterized in that

at least one of said space dividers comprises a space divider consisting of three-dimensional translucent material.

23. A space division system in accordance with claim 1, characterized in that at least one of said space dividers comprises a space divider structured in a flutter form configuration.

24. A space division system in accordance with claim 1, characterized in that at least one of said space dividers comprises a space divider having a quad-place configuration.

25. A space division system in accordance with claim 1, characterized in that at least one of said space dividers comprises a space divider having a tri-place configuration.

26. A space division system for use with a supporting infrastructure, with the supporting infrastructure providing for distribution of electrical and communication signals, said space division system comprising:

a plurality of vertically-disposed space dividers;

5 support means coupled to said supporting infrastructure and to said partitions for supporting said space dividers from said supporting infrastructure;

means for relocating said space dividers at selected locations relative to said supporting infrastructure; and

10 electrical and communication connection means for transmitting and/or receiving said electrical and communication signals from said supporting infrastructure, and so as to apply said electrical and communication signals to functional accessories releasably coupled to said subset of said space dividers.

27. A space division system in accordance with claim 26, characterized in that

said subset of said space dividers comprises main bodies having lighting means embedded within said main bodies, in a manner so as to be visible to a person substantially adjacent said space dividers.

28. A space division system in accordance with claim 27, characterized in that said lighting means comprises solid state lighting technology.

29. A space division system in accordance with claim 28, characterized in that said solid state lighting technology comprises a plurality of LED lights.

30. A space division system in accordance with claim 28, characterized in that said solid state lighting technology comprises arrow lighting positioned adjacent a lower portion of said main bodies.

31. A space division system in accordance with claim 30, characterized in that said space division system further comprises means for simultaneously activating all arrow lights of said arrow lighting or, alternatively, activating said arrow lights of said arrow lighting in a manner so that said arrow lights are sequentially pulsed so as to create an effective pointing in a particular direction;

32. A space division system is accordance with claim 31, characterized in that said connection means comprises means for interconnecting telephone apparatus to communication signaling of said supporting infrastructure.

33. A space division system is accordance with claim 26, characterized in that said subset of said space dividers comprise space dividers having power battens positioned at a top portion thereof, for purposes of carrying power.

34. A space division system in accordance with claim 33, characterized in that said power comprises both low voltage DC and AC power.

35. A space division system in accordance with claim 33, characterized in that said power battens have openings accessible to internal linear voids existing within knitting of said main bodies, and power cables may be extended within said voids.

36. A space division system in accordance with claim 26, characterized in that said subset of said space dividers comprises space dividers consisting of a structural batten at the top ends thereof, with fabric extending downwardly therefrom, and with linear voids formed within said fabric, in spaced apart intervals downwardly along said space dividers.

37. A space division system in accordance with claim 26, characterized in that said subset of said space dividers comprise space dividers having power battens extending downwardly so as to form end hems of said space dividers, with low voltage DC power strips and/or communication cables extending through said power battens.

38. A space division system in accordance with claim 37, characterized in that said power battens are formed by taking sections of said space dividers and turning them rearward upon themselves, and then connecting ends of said space dividers to other portions of said space dividers through the use of releasable securing means.

39. A space division system in accordance with claim 26, characterized in that said subset of said space dividers comprises space dividers formed of translucent material and having communication cables extending through pre-woven pockets of said translucent space dividers.

40. A space division system in accordance with claim 26, characterized in that said subset of said space dividers comprises space dividers having a plurality of internal linear voids through which first linear LED lighting strips are inserted.

41. A space division system in accordance with claim 40, characterized in that

said internal linear voids are horizontally located within said space dividers, and further carry power cables and communication cables.

42. A space division system in accordance with claim 41, characterized in that said first LED lighting strips comprise linear flex side LED lighting strips.

43. A space division system in accordance with claim 41, characterized in that said space dividers include global communications interconnections.

44. A space division system in accordance with claim 41, characterized in that said space dividers further comprise a second set of LED lighting strips turned in a different direction from said first LED lighting strips, so that actual light intensity and light diffusion at opposing surfaces of said space dividers may differ depending upon the particular sections.

45. A space division system in accordance with claim 35, characterized in that said linear voids carry LED lighting strips having a substantially flat configuration, with a particular light intensity and light dispersion as viewed on one surface of said space divider, while a relatively opaque view is produced on an opposing surface of said space divider.

46. A space division system in accordance with claim 26, characterized in that said subset of said space dividers comprises space dividers having LED lighting technology employed externally of said sections.

47. A space division system in accordance with claim 46, characterized in that said space dividers include curtains mounted from top portions of said space dividers, and LED lighting strip supports depend forwardly from said space dividers, and are appropriately secured to linear voids of said space dividers.

48. A space division system in accordance with claim 47, characterized in that

positioned downwardly from said supports is a series of LED lights, having appropriate colors so as to provide an external color wash over a lower portion of said side surfaces of said space dividers, below said curtain.

49. A space division system in accordance with claim 47, characterized in that said color wash can be modified in intensity and with respect to diffusion dependent upon intensity and color of said LED lights, and dependent upon the particular materials from which said space dividers are constructed.

50. A space division system in accordance with claim 26, characterized in that said subset of said space dividers comprises space dividers having low voltage DC power lines, communications cabling, AC power and AC power lines.

51. A space division system in accordance with claim 50, characterized in that at least one of said AC power lines terminates in a pair of electrical receptacles, and conventional electrical appliances may be energized through said electrical receptacles.

52. A space division system in accordance with claim 50, characterized in that at least one of said AC power line terminates in a pair of electrical receptacles, and computerized apparatus may be energized through said electrical receptacles.

53. A space division system in accordance with claim 52, characterized in that data and communication signals are transmitted from said computerized apparatus through a communications signal junction box and outwardly through said communications cabling.

54. A space division system in accordance with claim 53, characterized in that said space dividers comprise electrical interconnections of at least one task light to said electrical signals of said supporting infrastructure.

55. A space division system in accordance with claim 54, characterized in that said task light comprises:

a rectangular LED marker at a terminus of said light;

a flexible joint ;

5 a fabric cover extending downwardly and angularly from said flexible joint; and
said fabric cover is interconnected to a securing bracket which, in turn, is secured to one of said space dividers.

56. A space division system in accordance with claim 26, characterized in that said subset comprises space dividers having projection screens releasably secured thereto.

57. A space division system in accordance with claim 26, characterized in that at least a subset of surfaces of said space dividers comprises surfaces adapted for use as projection screens, with monofilaments.

58. A space division system in accordance with claim 26, characterized in that said system further comprises means for visually indicating external and internal circumstances associated with said space division system.

59. A space division system in accordance with claim 58, characterized in that said means for indicating external and internal circumstances comprises light means for visually indicating when an individual is within a particular workspace formed by said space dividers.

60. A space division system in accordance with claim 26, characterized in that said system further comprises data storage devices associated with said space dividers and releasably interconnectable to external electronic components.

61. A space division system in accordance with claim 26, characterized in that:

said system further comprises utilitarian elements associated with said space dividers, with said utilitarian elements comprising at least one controlling device;

5 said utilitarian elements further comprise at least one controlled device, with said controlled device having at least first and second states; and

said communications signals are utilized to effect a logical control relationship between said controlling device and said controlled device.

62. A space division system in accordance with claim 61, characterized in that said logical control relationship between said controlling device and said control device is reconfigured at least in part with said communications signals, in the absence of any physical relocation of any physical wiring associated with said controlling device and said controlled
5 device.

63. A space division system in accordance with claim 61, characterized in that said system comprises at least one manually operable programming means for transmitting programming signals so as to effect said logical control relationship.

64. A space division system in accordance with claim 26, characterized in that:

said system further comprises a set of utilitarian elements associated with said
space dividers; and

5 at least certain of said utilitarian elements are manually releasable from said space dividers.

65. A space division system in accordance with claim 26, characterized in that said system further comprises audio apparatus integrated with at least a subset of said plurality of vertically-disposed space dividers.

66. A space division system in accordance with claim 65, characterized in that said audio apparatus comprises a plurality of speakers energized from said electrical signals.

67. A space division system in accordance with claim 66, characterized in that:

said speakers comprise controlled devices;

said system further comprises at least one controlling device; and

5 said communication signals are utilized to effect a logical control relationship between said controlling device and said speakers.

68. A space division system in accordance with claim 67, characterized in that said system further comprises at least one manually operable programming means as said controlling device, for transmitting programming signals so as to effect said logical control relationship with said speakers.

69. A space division system in accordance with claim 26, characterized in that said system further comprises sound management apparatus for providing means for controlling perceptions of sound at spatial locations adjacent said space division system.

70. A space division system in accordance with claim 69, characterized in that said sound management apparatus is powered at least in part though said distribution of electrical signals.

71. A space division system in accordance with claim 66, characterized in that said speakers are utilized to generate noise masking audio signals for purposes of providing sound management at spatial locations around said space division system.

72. A space division system in accordance with claim 1, characterized in that said space division system is adapted for use with an articulating ceiling.

73. A space division system in accordance with claim 1, characterized in that at least a subset of said space dividers is constructed at least in part of materials having substantial capabilities of resisting penetration.

74. A space division system in accordance with claim 73, characterized in that said subset of said space dividers consist at least in part of materials within the group of Aramids.

75. A space division system in accordance with claim 74, characterized in that said subset of said space dividers are constructed at least in part of Kevlar® brand fiber.

76. A space division system in accordance with claim 1, characterized in that said plurality of partitions comprises at least a subset of said space dividers constructed at least in part of materials having substantial fire-resistant or fire-proof properties.

77. A space division system in accordance with claim 76, characterized in that said subset of said space dividers consist at least in part of materials within the group of Aramids.

78. A space division system in accordance with claim 77, characterized in that said subset of said space dividers are constructed at least in part of materials consisting of Nomex® brand fiber.

79. A space division system in accordance with claim 1, characterized in that said plurality of space dividers comprises at least a subset of said partitions consisting at least in part of materials comprising a blend of Kevlar® and Nomex® brand fibers.

80. A space division system in accordance with claim 1, characterized in that said system comprises means for securing at least a subset of said plurality of space dividers to a lower floor structure.

81. A space division system in accordance with claim 26, characterized in that said space division system further comprises switch means for controlling functional accessories associated with said partitions.

82. A space division system in accordance with claim 81, characterized in that said switch means comprise switches having differing spatial positions for generating "on" and "off" states.

83. A space division system in accordance with claim 81, characterized in that said switch means are electrically responsive to spatial signals so as to change between control states.

84. A space division system in accordance with claim 81, characterized in that said switch means comprise pressure switches.

85. A space division system in accordance with claim 81, characterized in that said switch means are responsive to signals indicative of motion within areas surrounding said switch means, for switching between control states.

86. A space division system in accordance with claim 81, characterized in that said switch means are responsive to radio frequency signals for switching between control states.

87. A space division system in accordance with claim 81, characterized in that said switch means are responsive to infrared signals for switching between control states.

88. A space division system in accordance with claim 61, characterized in that said at least one controlling device comprises at least one switch.

89. A space division system in accordance with claim 26, characterized in that said system further comprises means for generating and for sensing radio frequency identification signals.